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OCCUPATIONAL SAFETY & HEALTH

Assuring Accuracy in Employer Injury and Illness Records

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The Honorable Lawton Chiles
Chairman, Subcommittee on Labor, Health and
Human Services, and Education
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

In this report, we respond to your request to study the problem of inaccuracies in employer injury and illness records; these records are required by the Occupational Safety and Health Act of 1970 (P.L. 91-596). In discussions with your staff, we agreed to focus on (1) the extent of inaccuracies, (2) any changes needed to reduce inaccuracies, and (3) problems and potential improvements in inspection targeting. As agreed, this report addresses the first two issues; we will report on the third issue later.

The accuracy of employer records has long been a matter of concern to the Congress. Accuracy was stressed when the act was passed and in later congressional hearings on the Occupational Safety and Health Administration (OSHA), which is the Department of Labor agency that administers the act.

To carry out our work, we (1) reviewed quantitative studies of recordkeeping accuracy, (2) examined selected OSHA inspection files, (3) interviewed Department of Labor officials in OSHA and the Bureau of Labor Statistics (BLS), and (4) surveyed officials of state occupational safety and health programs. Our audit work was conducted from December 1987 through March 1988. We provided a draft report to the Department of Labor for review, and the comments of BLS and OSHA are reflected in the report where appropriate.

Overall, we concluded that additional efforts to improve record accuracy are called for, given that (1) the problem of recordkeeping inaccuracies is serious and (2) the injury and illness records are important to program success. Although none of the studies we reviewed provided reliable national estimates of recordkeeping accuracy, we found that about one-quarter of the employers in two different studies had underrecorded injury or illness data on which OSHA relies to direct a part of its safety enforcement effort. OSHA has strengthened its enforcement procedures and BLS has begun taking some steps to assess the accuracy of

employer records, but recent studies suggest that Labor needs to further encourage recordkeeping accuracy.

Importance of Employer Injury and Illness Records

Accurate injury and illness records are important for many reasons. These records are used by the Congress, researchers, OSHA, BLS, and other agencies to describe the nature and extent of occupational safety and health problems. These records are also vital to employers and employees to help identify and correct safety and health problems in the workplace. Finally, these records are useful to OSHA in conducting research, evaluating programs, allocating resources, and setting and enforcing standards. This report focuses on the importance of injury and illness records in OSHA enforcement, particularly in (1) targeting industries and worksites for inspections and (2) determining the scope of inspections to be conducted. Inaccurate records can have a significant impact on these enforcement activities.

Labor requires employers to keep (1) a listing (called the OSHA log) of job-related employee illnesses or injuries that required more than first aid and (2) a supplementary record describing each injury or illness. These are to be kept at the worksite. Labor also charges the Bureau of Labor Statistics with the responsibility for defining what records employers must keep and collecting injury and illness data from a representative sample of employers. The Bureau conducts an annual survey of approximately 280,000 employers. Using the data reported by this sample of employers, it then estimates industry-by-industry injury and illness statistics, but it does not publish or otherwise divulge individual employers' responses.

In its enforcement program, OSHA uses the BLS statistics and the on-site logs maintained at individual worksites. Using the BLS survey results, OSHA prepares state-by-state rankings of manufacturing industries by their lost workday injury (LWDI) rate.[1] It then uses this ranking to target manufacturing worksites for safety inspections (other approaches, which do not use employers' records, are used to target safety inspections in the construction and nonmanufacturing industries).[2] When making an inspection, compliance officers review the employer's injury and illness log and calculate an LWDI rate for the employer.

[1]The LWDI rate is the average number of injuries that required days away from work or restricted work activity per 100 full-time workers per year.

[2]In fiscal year 1987, OSHA conducted about 51,600 safety inspections. Of these, 34,600 were targeted inspections, of which 7,500 used these rankings, based on reported LWDI rates.

Until recently, OSHA allowed a compliance officer to conduct a "records only" inspection if the employer's LWDI rate was below the national average for manufacturing. This meant no physical inspection of the worksite was required. To reduce the role of employers' logs in determining the scope of inspections, since 1986, OSHA has revised the records-review procedures several times. But the records are still important for such purposes as identifying potentially hazardous activities or equipment. For example, if the employer's log is incomplete, the compliance officer may be unaware that certain areas of the worksite or certain operations are hazardous.

Because of inaccurate injury and illness records, employers engaged in hazardous activities can avoid inspections or receive less than complete inspections. Underreporting of injuries in an industry lessens the likelihood that inspections will be conducted because OSHA bases its safety inspections of manufacturing employers on each industry's LWDI rate. OSHA is unable to inspect many manufacturing employers in any particular year, so underreporting in a given industry increases the probability that employers in that industry involved in hazardous activities or hazardous conditions will go uninspected.[3] In addition, individual employers who underrecord their LWDIs further increase their chances of avoiding a comprehensive inspection.

Extent of Inaccuracies in Employer Records

Our review of studies of recordkeeping accuracy indicated possibly significant injury and illness underrecording and subsequent underreporting to BLS. One joint OSHA-BLS study found recordkeeping violations at 75 percent of the 200 employers visited in two states.[4] Of the employers, 23 percent underrecorded LWDIs in their logs. Another study, in the chemical industry, found that one-half of the 40 employers visited failed to record injuries or illnesses completely in their logs.[5] Neither of these studies, however, provided a national estimate of the number of injuries going unrecorded or the number of employers maintaining inaccurate records.

[3]In fiscal year 1987, there were approximately 78,000 high-hazard manufacturing employers in states under OSHA's jurisdiction, and OSHA carried out 7,500 targeted safety inspections in the manufacturing industry.

[4]W.M. Eisenberg and H. McDonald, "Evaluating Workplace Injury and Illness Records: Testing a Procedure," Monthly Labor Review (Apr. 1988). This article describes the study and the extent of errors in recording injuries and illnesses. The description of recordkeeping inaccuracies by employers is based on our analysis of unpublished data from OSHA.

[5]Chemical Special Emphasis Program Final Report, Department of Labor, Occupational Safety and Health Administration (1987); we also analyzed additional unpublished data from OSHA.

Reasons for Inaccurate Recordkeeping

Our review disclosed that inaccurate recordkeeping occurs for several reasons. Employers may deliberately underrecord injuries in response to incentives such as OSHA inspection policies or employer safety competitions.

Employers may also misunderstand what needs to be recorded; over one-half the state program officials we surveyed thought employers needed more help in understanding BLS's extensive and complex recordkeeping guidelines. In addition, accurate recordkeeping is not a high priority for many employers, which may lead to unsupervised employees making careless errors or not keeping logs current.

Revised Enforcement Procedures Should Help Improve Record Accuracy

OSHA has revised its enforcement procedures in two ways that should help improve the accuracy of employers' records and reduce the negative impact of inaccuracies. OSHA (1) increased the size of fines for violating its recordkeeping policy and (2) modified its records-review procedures.

In 1986, OSHA changed its policy to allow larger fines in cases of "egregious" violations.[6] This change allowed for fines up to $10,000 for each instance of an egregious violation of OSHA standards, rather than a $10,000 maximum for each standard violated (regardless of the number of instances). As a result, $10 million in initial penalties was assessed against 65 employers for significant recordkeeping violations in the 21 months ending September 1987,[7] with 7 employers being assessed more than $500,000 each. By comparison, only 8 employers were cited for significant recordkeeping citations in 1984 and 1985, with a total of $17,000 in initial penalties—the largest single penalty being $5,000.

OSHA also modified its records-review procedures to reduce its reliance on employer injury and illness logs for determining the comprehensiveness of the inspection to be made at a worksite. Procedure changes made in 1986 required (1) comprehensive inspections in every tenth worksite regardless of the worksite's injury rate, (2) a comparison of the logs with other employer records, and (3) limited walk-through inspections to assure compliance with the hazard communication standard, which requires employers to label their hazardous chemicals and inform

[6]For the designation "egregious," OSHA considers factors such as the employer's past citations, lack of good faith, intent to mislead, and the importance of the OSHA policy violated.

[7]We considered violations significant if OSHA classified them as "willful" or assessed an initial penalty of at least $1,000.

employees about the hazards involved. The most significant change was in March 1988. At that time, OSHA directed its compliance officers to (1) begin conducting a more thorough walk-through inspection of the high-hazard areas of each worksite that had a below-average injury rate and (2) conduct a comprehensive inspection if serious violations were observed.

Revisions in Enforcement Procedures Should Improve OSHA's Inspection Process

We believe the above revisions in OSHA's enforcement procedures should improve the effectiveness of OSHA's inspection process for three reasons. First, employers with serious recordkeeping violations will no longer be exempted from walk-through inspection because they have below-average LWDI rates. Because of OSHA's procedure requiring that every tenth worksite receive a comprehensive inspection regardless of the employer's LWDI rate, we were able to evaluate what violations were missed by exempting employers with below-average rates. At eight OSHA area offices, we reviewed the results of all 148 safety inspections that were made as a result of that procedure. Fifty of these worksites would not have been physically inspected under the prior records-review procedures because the LWDI rates were below the national average rate of 4.2, as shown in table 1. At many of these worksites, compliance officers found serious violations. For 30 (60 percent) of the 50 worksites with below-average LWDI rates, employers were cited for one or more serious violations; for 8 (16 percent) of the worksites, employers were cited for five or more serious violations. Of the 148 inspections, 98 inspections would have been done under the records-review procedures because (1) 72 employers had LWDI rates equal to or above the 4.2 average and (2) 26 had no OSHA logs, making LWDI rates indeterminable.

Table 1: Serious Violations at Worksites With LWDI Rates Above and Below the National Average

		Percent with serious violations	
Worksite LWDI rate	**Worksites**	**At least 1**	**5 or more**
Above (or equal to) average	72	76	25
Below average	50	60	16

Second, enforcement programs will rely less exclusively on records that may have inaccuracies undetected by the compliance officer. In fiscal year 1987, recordkeeping violations were found in only 8 percent of all inspections; our review of a sample of these violations at nine area offices suggests that the great majority were for employers' failing to keep OSHA logs. However, in two enforcement programs that gave special emphasis to recordkeeping, compliance officers found recordkeeping

violations for more than one-half of the employers and injury or illness underrecording for at least one-quarter of them.

Finally, the incentive for employers to avoid inspections by underrecording injuries, which some employers apparently did, has been removed. One study concluded that up to 7 percent of the LWDIs in high-hazard industries were underreported because employers were trying to avoid OSHA inspections.[8] Our analysis of OSHA inspection reports showed that 9 employers, cited for significant recordkeeping violations between January 1986 and September 1987, had previously received records-only inspections because their logs showed low injury rates. One employer that was fined $690,000 for recordkeeping violations in 1986 had twice received records-only inspections and had not received a comprehensive inspection since 1982. Removing this incentive to underreport and levying larger fines for egregious underrecording may encourage employers to record injuries and illnesses more completely and accurately.

Further BLS Actions Needed to Help Improve Record Accuracy

In 1984, the Congress directed Labor to spend funds from its fiscal year 1985 appropriations for BLS to conduct a quality assurance study of its Annual Survey of Occupational Injuries and Illnesses. In response, BLS contracted with the National Research Council to examine BLS's data system for occupational safety and health statistics. In 1987, the Council reported that there was no provision for periodic assessment of records quality. Thus, several of its recommendations addressed quality assessment and assurance. Three were aimed at assessing the accuracy of employer records. A fourth addressed employers' understanding of the guidelines that define what employers should record. A fifth called for checking the consistency between employers' logs and what employers report to BLS.

In response to the first three recommendations—to assess the accuracy of employer records—the Council recommended that BLS obtain injury and fatality data from three independent sources and compare them with employers' logs. The data to compare the logs with would come from (1) identifying occupational injury cases from independent medical sources such as hospital admissions, (2) interviewing a sample of employees to identify injury cases, and (3) working with state agencies to develop rosters of occupational fatalities. In comparing records from

[8]J.W. Ruser and R.S. Smith, "The Effect of OSHA Records Check Inspections on Reported Occupational Injuries in Manufacturing Establishments," Journal of Risk and Uncertainty (Dec. 1988).

other sources with the logs, BLS could assess the accuracy of employer logs as well as identify reasons for any discrepancies.

As of November 1988, BLS had actions under way that respond to these three recommendations. In one state, BLS is comparing work-related fatalities in four data bases and, where there are discrepancies, interviewing employers and examining their records to identify the causes of discrepancies. BLS is also collecting additional information on work-related injuries and illnesses from hospital records and employees. But comparisons will be made only at the aggregate level—with BLS estimates—not with injury and illness logs at the employer level.

In response to the fourth recommendation—that BLS assess employers' understanding of recordkeeping guidelines—BLS is participating in the Keystone Center project on occupational injury and illness recordkeeping. This collaboration of business, labor, and government representatives has been working for more than a year to identify problems with the current recordkeeping system and the causes of these problems.

The task force is expected to propose options for improvements in the recordkeeping guidelines when it reports in early 1989. BLS would then consider these options in drafting revised guidelines for issuance in January 1991. Although there is no formal research plan, BLS officials advised us that they intend to test employer understanding of the revised recordkeeping guidelines both before and after their issuance.

In response to the fifth recommendation—to compare employers' BLS survey responses with their logs—the Bureau conducted seven feasibility studies in 16 states during 1988. These studies tested various approaches for collecting OSHA logs and additional injury and illness data. Those approaches that appeared promising in the feasibility studies will be tested in four pilot tests to be conducted in 10 states in 1989.

We believe that in addition to collecting records and generating statistics about occupational injuries and illnesses, BLS should assess record accuracy at its source—the employers' logs—and identify problems and solutions to improve accuracy.

BLS has acknowledged that interviewing employers and examining employers' records would be consistent with its mission as long as employer participation is voluntary. Therefore, we believe BLS should undertake the studies recommended by the National Research Council to assess the accuracy of individual employers' injury and illness records.

Given the importance of understandable and unambiguous recordkeeping guidance to improve accuracy and the lack of understanding shown by employers in the past, we also believe BLS should test the revised guidelines with representative employers before publishing them.

Recommendations to the Secretary of Labor

We recommend that the Secretary of Labor require BLS to

- conduct studies that assess the accuracy of employer injury records by comparing those records with independent data sources and
- systematically evaluate how well employers understand the revised guidelines for recording (and reporting) work-related injuries and illnesses to BLS.

Further OSHA Procedures Needed to Help Improve Record Accuracy

BLS and OSHA conducted the Recordkeeping Audit Program in 1987 to develop and evaluate procedures for improving the accuracy of employer on-site records. Compliance officers (1) reconstructed injury and illness records from medical records, workers' compensation reports, other worksite records, and employee interviews and (2) compared these data with the employer's log. Officers also interviewed the designated recordkeeper at each worksite. As noted earlier, OSHA compliance officers found far more recordkeeping violations using these procedures than compliance officers usually find. Some of the violations—if not found—would limit the ability to detect hazardous conditions. The procedures were nonetheless time-consuming, with compliance officers averaging 40 hours to complete these inspections, compared with 10 hours for the typical targeted inspection.

As we informed you in June 1988, neither BLS nor OSHA was considering ways to further use these procedures. If employers were required to give BLS access to their records, BLS believes that using these procedures could help in detecting inaccuracies. BLS also believes, however, that such use is inappropriate to its mission and policies. OSHA officials said they had considered the idea of using these procedures with a nationwide sample in order to develop statistically valid estimates of recordkeeping inaccuracies. This was rejected, however, because they felt the effort would serve little purpose and require excessive resources. In addition, they said they had given no consideration to whether these procedures would be useful in detecting lack of compliance with recordkeeping procedures in their ongoing enforcement activities. As we discuss later, OSHA now plans to adopt several of these procedures in its

enforcement activities in the manufacturing industry, but it has not yet revised its Field Operations Manual to implement these changes.

The June 1988 report of the Senate Appropriations Committee urged Labor to consider ways of using these procedures for finding recordkeeping violations. The Committee asked Labor to (1) report by December 1, 1988, on options for using these procedures and (2) indicate whether it would implement any of the options. The National Research Council also recommended that use of the procedures be expanded if they proved feasible in agency tests.

Given the results of the inspections using these procedures, we believe that OSHA should consider using them in selected enforcement situations even though they may be too labor-intensive to warrant their nationwide use. For example, these procedures might be used (1) in certain industries where underrecording is thought to be prevalent or (2) on a random basis to reinforce the importance of recordkeeping accuracy and encourage voluntary compliance.

Recommendation to the Secretary of Labor

We recommend that the Secretary of Labor direct OSHA to use the procedures developed in the Recordkeeping Audit Program in selected enforcement activities.

Agency Comments

The Department of Labor comments were provided orally by officials representing BLS and OSHA. In addition, OSHA submitted a written response which is included as appendix II. Specific technical clarifications have been incorporated in the text as appropriate; BLS and OSHA comments regarding our recommendations are summarized below.

BLS Comments

BLS concurred with both our recommendations for BLS actions. The Bureau noted one qualification, however, about our recommendation that it assess the accuracy of employer injury records. BLS agrees there is a need to make these assessments at the employer level, but noted that its ability to assess recordkeeping accuracy is nonetheless limited. According to BLS, if the data that the Bureau compared with employer logs were inaccurate, such comparisons would assess consistency between the logs and the data rather than the accuracy of the logs. BLS believes that the most conclusive tests of accuracy may require comparing employers' logs with data, such as medical records, to which BLS lacks access.

We recognize the difficulty of assessing the accuracy of employers' records. Nevertheless, we believe that employer-level comparisons of injury records with independent data sources can be useful in identifying problems and solutions that would improve record accuracy. Thus, we believe BLS should assess the accuracy of employer records, to the extent that it can, with data to which it has access or data that employers and employees voluntarily provide.

OSHA Comments

OSHA concurs with our recommendation that it use the procedures developed in the Recordkeeping Audit Program in selected enforcement activities. After reviewing our draft report, OSHA informed us that it plans to adopt several of the procedures for use in routine records reviews during inspections in the manufacturing industry. To determine worker awareness of injury and illness records and obtain supplemental and unreported information about illnesses and injuries, the procedures would include interviewing the designated recordkeeper and interviewing employees. For compliance purposes, however, OSHA does not plan to use the most time-consuming of the procedures (reconstructing employer logs) because to do so would mean shifting resources from other activities, such as safety inspections. OSHA believes that use of the other procedures (interviews with employees and recordkeeping officials) in combination with increased emphasis on recordkeeping violations makes reconstructing the employer logs unnecessary and inefficient.

Adopting the more systematic and consistent interview procedures used in the Recordkeeping Audit Program, as OSHA plans, should improve its ability to detect recordkeeping inaccuracies. In addition, documenting the use of these procedures should provide an important quality assurance measure that supervisors can use to confirm that thorough records reviews have been made. OSHA's statement of its plans, however, does not address two other aspects of its current procedures, comparison of employer logs with (1) workers' compensation injury reports or comparable OSHA forms and (2) on-site medical treatment or first-aid records in cases where there is evidence of widespread recordkeeping violations. Documenting these comparisons, as well as the required interviews, would substantially improve OSHA's procedures for verifying accuracy. With these improvements, we would agree with OSHA that reconstruction of an entire log is unnecessary for routine compliance purposes.

OSHA said that it intends to periodically repeat the Recordkeeping Audit Program in its entirety, including reconstruction of the log, for purposes

other than enforcement. This would be done, for example, to assess changes in employer recordkeeping practices over time and to evaluate the effectiveness of OSHA and BLS procedures to improve recordkeeping.

As we have said in earlier reports and testimony, carefully designed evaluations are essential to improving program implementation and assessing the impact of program changes. These procedures should be useful in conducting such evaluations.

We are sending copies of this report to the Secretary of Labor, the Assistant Secretary for Occupational Safety and Health, the Commissioner of Labor Statistics, and other interested parties. Copies will also be made available to others on request. This report was prepared under the direction of William J. Gainer. Other major contributors are listed in appendix III.

Sincerely yours,

for William J. Gainer

Lawrence H. Thompson
Assistant Comptroller General

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Abbreviations

BLS	Bureau of Labor Statistics
LWDI	lost workday injury
OSHA	Occupational Safety and Health Administration

Occupational Safety and Health: Assuring Accuracy in Employer Injury and Illness Records

Background

The Occupational Safety and Health Act of 1970 (P.L. 91-596) was intended "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources." Among its provisions, the act

- authorizes the Department of Labor to establish mandatory safety and health standards for employers and enforce compliance with those standards through inspections and penalties for violations;
- requires employers to maintain and report safety and health records as required by Labor; and
- encourages the states, with Labor's approval and monitoring, to operate their own safety and health programs.

In 1971, the Occupational Safety and Health Administration (OSHA) was created to administer the act. OSHA, with direct responsibility for private-sector enforcement, conducts inspections and enforces regulations through its regional and area offices in 30 states, the District of Columbia, and the territories. It also monitors and evaluates programs in 20 other states and two territories that enforce their own occupational safety and health programs in the private sector. OSHA's mandate is to assure that state performance is as effective as its own in providing a safe and healthful workplace. We recently testified before the Senate Committee on Labor and Human Resources concerning how OSHA monitors and evaluates state occupational safety and health programs.[1]

The Secretary of Labor has given the Bureau of Labor Statistics (BLS), another component agency within the Department, responsibility for collecting occupational safety and health records. BLS issues guidelines to employers defining what injuries and illnesses to record and what information to record about them. BLS also conducts an annual occupational safety and health survey of employers and provides the statistical results to OSHA and others.

Objectives, Scope, and Methodology

The accuracy of employer injury and illness records has long been a matter of concern to the Congress. The importance of accurate records, discussed when the act was passed, has been an issue in subsequent congressional hearings. In 1984, the Congress directed Labor to allocate $500,000 for a study of the accuracy of employers' occupational injury and illness records. In a letter dated January 20, 1987, the Chairman, Subcommittee on Labor, Health and Human Services, and Education,

[1]OSHA's Monitoring and Evaluation of State Programs (GAO/T-HRD-88-13, Apr. 20, 1988).

Senate Committee on Appropriations, asked us to review the accuracy of employers' occupational injury and illness records and OSHA's actions to assure the accuracy of these records. In later discussions with the Chairman's office, we agreed to (1) study the extent of inaccuracies in employers' injury and illness records, (2) recommend any changes needed to improve record accuracy or reduce the effects of inaccuracies, and (3) describe any problems and potential improvements in OSHA enforcement targeting, which relies partly on these records. As we agreed, this report responds to the first two issues; we will report on the third later.

To address the extent of record inaccuracies, we attempted to identify and review all recent quantitative research on the accuracy of the injury records maintained and reported by employers under OSHA's jurisdiction. Our review of research studies focused on inaccuracies in reporting injuries, rather than illnesses, because underreporting of injuries has more relevance to OSHA inspection targeting and enforcement activities.

Between January and March 1988, we visited nine OSHA area offices in six states where OSHA was responsible for relatively large numbers of safety inspections of manufacturing worksites (see fig. I.1).

As explained in the letter, to identify how record inaccuracies can occur, how they are detected, and how often they are detected by OSHA, we interviewed OSHA officials. We also reviewed selected inspection files. To judge the effectiveness of OSHA's records-review procedures, we reviewed 148 files for inspections done under the requirement to make comprehensive safety inspections of every tenth targeted worksite regardless of its LWDI rate. We also reviewed files for any inspections that found significant recordkeeping violations,[2] as well as for a random sample of all of the inspections in fiscal years 1986 and 1987 that had any citations for recordkeeping violations. We reviewed these files to determine what recordkeeping violations were being found and how.

To get a broader perspective on recordkeeping violations, we obtained information from OSHA's nationwide management information system. This consisted of the inspection histories of all employers cited for significant recordkeeping violations in fiscal years 1984-87.

[2]As mentioned in the letter, we considered violations "significant" if OSHA classified them as willful or assessed an initial penalty of at least $1,000. OSHA's Field Operations Manual defines a violation as "willful" if the evidence shows that the employer committed an intentional and knowing violation of the act.

Figure I.1: Area Offices Visited and States Surveyed

To learn how record inaccuracies are addressed in 22 states and territories responsible for operating their own safety and health programs, we did telephone interviews, during February and March 1988, with state program officials. The state programs we surveyed are shown in figure I.1 (as mentioned earlier); we also surveyed Puerto Rico and the Virgin Islands.

To identify changes that could improve accuracy or mitigate the effects of inaccuracies, we interviewed officials and examined documents primarily at OSHA and BLS headquarters. We reviewed (1) actions OSHA has

taken to reduce the number and effect of record inaccuracies and (2) two studies suggesting possibilities for further action by BLS and OSHA to assure the accuracy of employer records. We also reviewed BLS's and OSHA's planned responses to these studies.

Our audit work was carried out from December 1987 through March 1988. We did not test the reliability of OSHA's computerized management information system. Otherwise, our review was conducted in accordance with generally accepted government auditing standards.

Importance of Injury and Illness Data

The Congress, researchers, federal agencies, employers, and employees rely on injury and illness records for a variety of reasons. Aggregate data from BLS's annual survey are useful to the Congress and researchers for describing the nature and trends of occupational injuries and illnesses. To identify hazards needing correction, employers and employees use these records at the worksite. This information can also be helpful to OSHA in conducting research, evaluating programs, setting standards, and allocating resources. The focus of this report, however, is on OSHA's direction of its safety inspection procedures by the use of employers' injury and illness records and BLS survey data.

The records employers must maintain are defined in recordkeeping guidelines issued by BLS. The last revision of the guidelines, effective April 1986, was issued (1) as an 83-page document and (2) as an 18-page guide to questions most frequently asked by employers. The primary record employers maintain is the OSHA log of occupational injuries and illnesses. For each work-related illness and for each injury that requires more than first aid, the employer is required to enter the employee's name, the date, a brief description of the injury or illness, and the number of days that the employee was away from work or was assigned restricted duties. Employers are also required to describe each injury and illness on an OSHA supplementary record of occupational injuries and illnesses. Employers can satisfy the requirement for supplementary records if they maintain comparable records for state workers' compensation programs or for insurance companies. Employers may also have comparable medical records for injuries or illnesses.

Each year, BLS surveys a sample of about 280,000 employers who complete and return a report summarizing data from their injury and illness log for the prior year. BLS then estimates industry-by-industry injury and illness statistics, but does not publish or otherwise divulge individual employers' responses.

From the BLS estimates, OSHA develops rankings of manufacturing industries for each state according to the industry lost workday injury (LWDI) rates. (The LWDI rate is the average number of injuries that required days away from work or restricted work activity per 100 full-time workers per year.) OSHA headquarters gives each area office and each state program the annual ranking of manufacturing industries for its state. It also gives each area office a list of worksites in its jurisdiction, ranked according to their industry LWDI rates.

Accurate injury records are important for two OSHA enforcement procedures: (1) targeting worksites to be inspected and (2) determining the scope of the inspections.

Determining Inspections

OSHA conducts both safety and health inspections, with both targeted (programmed) and unprogrammed inspections in each category. Targeted inspections are done at worksites OSHA selects for inspection; unprogrammed inspections are done in response to complaints, dangerous situations, fatalities, or catastrophes. In fiscal year 1987, OSHA carried out about 51,600 safety inspections (34,600 targeted; 17,000 unprogrammed) and 9,700 health inspections (1,800 targeted; 7,900 unprogrammed); and state-operated programs carried out an additional 110,000 safety and health inspections.

OSHA area offices and some state programs determine their targeted safety inspections for high-hazard manufacturing worksites on the basis of state industry rankings and worksite lists received from headquarters. Other targeted inspections that do not rely on LWDI rates are used for health inspections and for safety inspections of construction, nonmanufacturing, and low-hazard manufacturing industries. In fiscal year 1987, OSHA's system for targeting safety inspections at high-hazard manufacturing worksites was used for 7,500 OSHA inspections—about 43 percent of all safety inspections of manufacturing worksites.

OSHA area offices and the state programs that follow OSHA's inspection procedures use the worksite lists received from OSHA headquarters—with manufacturing worksites ranked according to industry LWDI rates—to determine inspections. These offices and programs start with worksites in industries with the highest LWDI rates and continue carrying out inspections down the list, in order of decreasing LWDI rates. If more LWDIs are underreported in one industry than another, that industry's LWDI rate will tend to be understated in BLS survey results; worksites in that industry will rank lower on OSHA's worksite lists. Because an area

office's worksite list typically has many more worksites than the office can inspect during a year, worksites with lower rankings have a greater chance of avoiding an inspection.[3]

Determining the Scope of Inspections

On arriving at a manufacturing worksite on a targeted safety inspection, a compliance officer reviews injury and illness records to help determine the scope of the inspection to be conducted. This records-review procedure, as originally implemented in 1981, required a compliance officer to first calculate the employer's LWDI rate from the injury log. If the employer's LWDI rate was less than the average rate for the manufacturing industry as a whole, the compliance officer would terminate the inspection without observing the worksite. This was called a records-only inspection. Under the initial procedure, an employer who underrecorded LWDI rates would have a greater chance of avoiding further inspection.

To decrease the reliance on worksite LWDI rates in determining whether to conduct inspections, from January 1986 to March 1988, OSHA made several changes to its records-review procedures. In fiscal year 1984, about one-half of the targeted safety inspections carried out by OSHA were concluded as records-only inspections, but the frequency steadily declined to about 24 percent by fiscal year 1987. Although the current procedures rely less on LWDIs, the rates are still a factor in determining the scope of an inspection.

Extent of Recordkeeping Inaccuracies

Our review of quantitative studies of recordkeeping accuracy indicated that injury and illness underreporting to BLS may be significant. Although no nationwide estimates of total underreporting were available, two studies found underrecording in at least 23 percent of worksites visited. A third study concluded that the underreporting, attributable to the incentive provided by OSHA's records-review procedures, could be as high as 7 percent of the LWDIs in high-hazard industries; this estimate excluded underreporting because of other reasons, such as employers misunderstanding recordkeeping requirements.

Our analysis of these studies focused on their estimates of the number of (1) underrecorded or underreported injuries and (2) employers in industries under OSHA's jurisdiction that maintained inaccurate injury

[3]In fiscal year 1987, about 78,000 high-hazard manufacturing worksites were in states under OSHA's jurisdiction.

and illness records. We focused on these two estimates because they provide information on the possible effect of inaccurate records. Inaccuracies may cause (1) misleading national statistics, (2) distorted industry injury rankings for OSHA's enforcement program, and (3) incorrect injury and illness records at a particular worksite.

For our review, we initially identified 20 studies that had quantitative estimates of recordkeeping inaccuracies. We eliminated 8 of these studies because they evaluated employers' reporting of fatalities to OSHA or the percentage of employers failing to keep logs—questions that do not bear on the reliability of injury logs or the records reported to BLS. We eliminated 9 of the remaining 12 studies because of methodological problems. These 9 studies based their estimates of inaccuracies on comparisons of independent data sources, primarily workers' compensation reports, with OSHA logs or BLS survey results; these 9 studies did not, however, adjust for the differences in criteria for reporting injuries and illnesses. As a result, what was considered "inaccuracy" in reporting was, to an undetermined extent, a valid difference in what was supposed to be reported in the two locations.

The three studies we found to be most relevant are summarized as follows:

Recordkeeping Audit Program

In response to congressional concern, BLS and OSHA conducted a pilot program to develop procedures for verifying the accuracy of employer injury and illness records and to assess the accuracy of employer logs at selected firms in two states.[4] About 200 manufacturing worksites in Massachusetts and Missouri were visited in 1987. Worksites were randomly selected to assure a distribution of small, medium, and large employers (with varying LWDI rates) in each of the four participating area offices. OSHA compliance officers did a much more detailed review of employer records than they would have done for a routine inspection. Using supplementary records, other company medical records, and injury and illness cases identified by employees, the OSHA officers reconstructed the employer's injury and illness log. The OSHA compliance officers also interviewed recordkeepers about recordkeeping practices and interviewed employees about their awareness of the injury and illness records.

[4]4As mentioned in the letter, W.M. Eisenberg and H. McDonald, "Evaluating Workplace Injury and Illness Records: Testing a Procedure," Monthly Labor Review (Apr. 1988). This article describes the study and the extent of errors in recording injuries and illnesses. The description of recordkeeping errors by employers is based on our analysis of unpublished data from OSHA.

This study provides information on both the number of inaccurately recorded injuries and illnesses at the worksites visited and the number of worksites that maintained inaccurate records. Because of the limited sample, however, the findings cannot be projected nationwide or even to all manufacturing worksites in these states. About 75 percent of the employers visited were cited for recordkeeping violations, ranging from (1) citations for willful underrecording to (2) citations for failure to keep records to (3) minor violations that would not affect the LWDI rates. About 36 percent of the employers underrecorded some injuries, and about 23 percent of them underrecorded LWDIs. Overall, LWDIs were underrecorded by about 25 percent.

At 9 percent of the worksites inspected, the underrecording was determined to be "willful," significantly reduced the LWDI rate, or reduced the LWDI rate below the national average, thereby qualifying it for a records-only inspection. Although effective, the Recordkeeping Audit Program procedures were time-consuming, with compliance officers averaging 40 hours to complete these inspections compared with 10 hours for the typical targeted inspection.

Chemical Special Emphasis Program

Following the disastrous chemical leaks at Bhopal, India, and elsewhere, in 1986, OSHA carried out the Chemical Special Emphasis Program in response to safety concerns about chemical worksites.[5] Forty worksites were inspected, representing a sample of various sizes and products in seven states. OSHA compliance officers intensively reviewed injury and illness records, comparing a worksite's injury and illness log with other data at the worksite, such as supplementary records, workers' compensation reports, and medical records.

OSHA found significant underrecording of injuries and illnesses in more than one-half of the worksites inspected. Eight employers were cited for willful recordkeeping violations and assessed a total of $600,000 in fines.

The results of the special program are not projectable to other industries and may not be representative of the chemical industry. However, after the inspections, Labor surveyed participating compliance officers for their views of the program. The consensus of the OSHA officers was that

[5]As mentioned in the letter, Chemical Special Emphasis Program Final Report, Department of Labor, Occupational Safety and Health Administration (1987); we also analyzed additional unpublished data from OSHA.

recordkeeping practices at the worksites visited ranged from average to better than average compared with other worksites in the industry.

Underreporting in High-Hazard Industries

Two researchers from BLS and Cornell University examined whether OSHA's records-review procedures induced employers to underreport injuries.[6] Using the BLS annual survey data for 1979-85, the researchers examined the change in LWDI rates for more than 3,000 worksites after OSHA instituted its records-review procedures. They compared the high-hazard worksites subject to OSHA's records-review procedures with (1) comparable worksites in state program jurisdictions that were not following OSHA's procedures and (2) low-hazard manufacturing worksites not subject to the procedures.

The researchers estimated that other factors being equal, the extent of underreported injuries was as much as 7 percent higher among high-hazard worksites, those with an incentive to underreport in order to avoid comprehensive targeted inspections. The researchers acknowledged that LWDI rate decreases reported by high-hazard worksites might have been due to actual reductions in LWDIs because the records-review procedures led to an increased attention to safety. On the other hand, the researchers' estimate excluded underreporting occurring for other reasons, such as employers' misunderstanding of what should be reported.

Reasons for Inaccurate Recordkeeping

Our review revealed that inaccurate recordkeeping occurs for several reasons, including a lack of knowledge about the requirements, the existence of incentives to underreport, and the low priority given to recordkeeping.

Research studies and our review of inspection files show that some employers misunderstand or are unaware of OSHA's recordkeeping procedures. The Recordingkeeping Audit Program, for example, found that employers err in the direction of overrecording as well as underrecording injuries and illnesses. Of the 70 employers who failed to record some injuries, 31 also listed injuries that did not need to be recorded. Overall, 36 percent of the employers overrecorded injuries. About 15 percent of the injuries were not required to be recorded in employer logs. Virtually all of the overrecorded cases involved no lost work time, so the LWDI

[6] J.W. Ruser and R.S. Smith, "The Effect of OSHA Records Check Inspections on Reported Occupational Injuries in Manufacturing Establishments," Journal of Risk and Uncertainty (Dec. 1988).

rates and OSHA's inspection decisions would not have been affected. Nevertheless, the errors suggest that many employers misunderstand the extensive and complex guidelines. Of the state program officials in the 22 states and territories surveyed, 12 said that increased training and education by BLS and OSHA are needed to improve the accuracy of employer recordkeeping.

Employers have incentives to deliberately understate injuries. Because of OSHA's records-review procedures, some worksites underrecord injuries in an attempt to avoid a comprehensive OSHA inspection. As noted earlier, two researchers estimated that the incentive to underreport offered by OSHA's records-review procedures resulted in as much as a 7-percent underreporting of LWDIS among high-hazard industries subject to the procedures. OSHA compliance officers told us that in order to challenge workers' compensation or insurance claims, employers might also underrecord to avoid acknowledging that injuries are work related. OSHA inspection files revealed that some company officials may have underrecorded so as to appear more successful in performance evaluations or in safety contests based on worksite safety records.

The low priority many employers attach to recordkeeping can lead to inaccurate entries on OSHA logs. Our review of inspection files and interviews with OSHA compliance officers revealed that recordkeeping responsibility is sometimes assigned to low-level, untrained employees. The recordkeeper may be unsupervised, and injury data may not be reviewed for accuracy and completeness. This inattention to recordkeeping leads to errors, such as logs that are not kept up to date.

OSHA's Responses to Inaccurate Recordkeeping

OSHA has responded to the problem of inaccurate recordkeeping by increasing its enforcement of recordkeeping procedures and revising its policies to lessen the effect of employer underreporting.

Between January 1986 and September 1987, OSHA assessed 65 employers more than $10 million in fines for significant recordkeeping violations, with initial penalties ranging from $1,000 to $2.6 million, for an average of $164,000 per employer. The seven largest penalty assessments ranged from $600,000 to $2.6 million. In comparison, only 8 employers were cited for significant recordkeeping violations in 1984 and 1985. Their fines totaled $17,000, with $5,000 being the largest penalty assessed against a single employer.

Larger fines are possible because in 1986 OSHA changed its policy for calculating penalties, which can now be assessed for up to $10,000 for each "egregious" violation. OSHA designates a violation egregious on the basis of such considerations as the employer's past citations, lack of good faith, intent to mislead, and the importance of the OSHA policy violated. Before this policy change, the $10,000 limit, established by the Occupational Safety and Health Act, was applied to the OSHA standard violated, regardless of the number of instances of violations.

Revisions of Records-Review Procedures

OSHA has implemented a series of revisions in procedure that have reduced the frequency of records-only inspections.

Inspections of Tenth Worksite

In January 1986, OSHA responded to concerns about inaccurate injury and illness records with a procedure that directed compliance officers to conduct a comprehensive inspection at every tenth worksite on OSHA's list for targeted safety inspections regardless of the employer's LWDI rate. This new inspection procedure was designed to ensure that some employers with low LWDI rates, who would previously have been exempt, would undergo a comprehensive OSHA inspection.

Compliance With Hazard Communication Standard

In March 1986, OSHA directed its inspectors to verify compliance with its hazard communication standard by conducting limited walk-through inspections at manufacturing worksites, regardless of their LWDI rates. Essentially, the standard requires employers to label hazardous chemicals and to inform employees about the hazards. Compliance officers are required to expand an inspection for compliance with the hazard communication standard to include any other hazards they discover. Although this procedure applies to inspections in general, not just records reviews, the procedure has decreased the number of cases in which a compliance officer leaves the worksite after doing no more than a records-only inspection.

Verification of Employer Logs

In April 1986, OSHA directed its compliance officers to verify the accuracy of OSHA logs and expand inspections if they found recordkeeping problems. Compliance officers are directed to verify the injury and illness data in the log with other data such as OSHA supplementary records, workers' compensation reports, first-aid logs, or other medical

records. OSHA inspectors must also interview the employer representatives responsible for maintaining the OSHA log, as well as employees or an employee representative, about the injuries and illnesses recorded there. If compliance officers find serious discrepancies between an employer's OSHA logs and the supplementary data, they must expand the scope of the inspection from a records-only to a comprehensive inspection.

Inspections of Hazardous Operations

In March 1988, OSHA directed its compliance officers to conduct a walk-through of hazardous operations at every worksite inspected, even if a worksite's LWDI rate is below average. Hazardous operations may be identified from a worksite's hazard communication program, its overall safety and health program, or the types and frequency of injuries and illnesses on the employer's log. The initial walk-through may be expanded to a comprehensive inspection if serious violations are found, the employer's safety programs are deficient, or the employer's records indicate concentrations of injuries or illnesses in specific areas. A comprehensive inspection is done in all cases where the LWDI is above average.

OSHA's Enforcement Procedures and Policy Changes Should Help Improve Record Accuracy

OSHA's increased enforcement of recordkeeping procedures and revisions to the records-review procedures should help improve record accuracy by reducing the negative impact of inaccuracies and encouraging improvements in accuracy.[7]

First, employers with serious recordkeeping violations will no longer be exempted from inspection because of below-average LWDI rates. At eight OSHA area offices, we reviewed the citations for all 148 inspections done under OSHA's procedure for inspecting every tenth worksite, regardless of its LWDI rate. These 148 were all of the inspections done between the January 1986 start of this procedure through the dates we visited the offices. The 148 inspections included 72 employers that had LWDI rates equal to or greater than the 4.2 national average for the manufacturing industry, 50 employers with LWDI rates below the national average, and 26 employers with no LWDI rates calculated because they did not keep

[7]The change in the records-review procedures will also make them more consistent with procedures for state-operated programs. Of the 22 state programs we surveyed, 13 had chosen not to adopt the original records-review procedures, and 2 that had adopted them were considering abolishing them. According to officials from 5 of the 13 state programs, the original procedures constituted an inefficient use of resources; according to four officials, the original procedures encouraged underreporting of injuries.

logs. We identified many serious violations at worksites of employers with LWDI rates below the national average—employers that could otherwise have been exempt from inspections under the records-review procedures. For example, 30 (60 percent) of the employers with below-average LWDI rates had at least one serious violation; 8 (16 percent) had five or more. By comparison, 76 percent of the employers with above-average LWDI rates were cited for at least one serious violation, and 25 percent had five or more. Overall, the employers with below-average LWDI rates averaged 2.1 serious violations per inspection compared with 3.5 serious violations for employers with above-average rates.

Second, OSHA will rely less on records that may have inaccuracies undetected by the compliance officers. In the Chemical Special Emphasis Program, 50 percent of the employers with worksite inspections were cited for recordkeeping violations; in the Recordkeeping Audit Program, 75 percent of the employers were cited, and 23 percent of the employers underrecorded LWDIs. Both programs involved OSHA compliance officers' reviewing employer injury and illness records in more detail than they would during routine inspections. In contrast, only 8 percent of 61,000 total inspections done in fiscal year 1987 resulted in any recordkeeping violations. For a random sample of inspections at the OSHA area offices we visited, our review revealed that the great majority of these violations were for failure to maintain a log, rather than underrecording.

In addition, even in cases where OSHA cited employers for significant recordkeeping violations, the violations were sometimes detected only because employees or others brought problems to the compliance officer's attention. The nine area offices we visited had 14 inspections with significant fines for recordkeeping violations (excluding inspections done under the Chemical Special Emphasis or Recordkeeping Audit programs). Our review of the inspection files revealed that six of these violations were detected through union or employee complaints about inaccurate recordkeeping.

Finally, the incentive for employers to avoid inspections by underreporting injuries, which some employers seem to have done, will be removed. As mentioned before,[8] two researchers concluded that the records-review procedures induced employers in high-hazard industries to underreport injuries by as much as 7 percent. Of the 65 employers cited for significant recordkeeping violations in the 21 months ending in September 1987, 9 had previously received records-only inspections.

[8]Ruser and Smith, 1988.

One of these employers, a meat-packer, fined $690,000 for recordkeeping violations in 1986, had twice received records-only inspections and had not received a comprehensive inspection since 1982. Removing the incentive to underreport and levying larger fines for egregious underreporting may encourage employers to report injuries and illnesses more completely and accurately.

National Research Council Recommendations to BLS for Improving Record Accuracy

In 1984, the Congress directed OSHA to allocate funds for BLS to carry out a quality assurance study of its Annual Survey of Occupational Injuries and Illnesses. BLS, in turn, contracted with the National Research Council to examine the collection and use of data on health and safety in the workplace. The Council's 1987 report made 24 recommendations, including 13 for BLS,[9] directing that BLS (1) assess whether employers are accurately recording injuries and illnesses, (2) assess employers' understanding of recordkeeping requirements, and (3) verify the accuracy of data sent to BLS for the annual survey. These recommendations were based, in part, on the fact that BLS does not have a program for regular assessment of the data collected in the annual survey. The Council's three recommendations for assessing the accuracy of employer records and BLS's responses are summarized in table I.1.

Table I.1: National Research Council Recommendations for Assessing the Accuracy of Employer Logs and BLS Responses

Recommendation	BLS response
Obtain independent medical information on occupational injuries to determine the extent to which injuries were recorded on employers' logs.	No additional medical information on injuries will be collected. Questions will be added to the National Health Interview Survey; hospital discharge data from four states will provide additional illness data that will be compared with aggregate annual survey statistics but not with employer logs.
Survey employees to identify cases of occupational injuries. Determine whether these cases were recorded on employers' logs.	Follow-up interviews with employees who reported injuries on the National Health Interview Survey will be compared with aggregate annual survey statistics but not with employers' logs.
Using a variety of data sources, work with state agencies to develop complete rosters of occupational fatalities. Determine whether these deaths were recorded on employers' logs.	In one state, BLS will compare work-related fatalities on (1) death certificates, (2) reports to OSHA, (3) workers' compensation files, and (4) BLS annual survey report forms. Discrepancies will be discussed with employers and compared with their logs.

Note: The National Health Interview Survey, conducted by the National Center for Health Statistics, collects information from approximately 50,000 households annually regarding health conditions and medical services obtained.

[9]E.S. Pollack and D.G. Keimig, eds., Counting Injuries and Illnesses in the Workplace: Proposals for a Better System (Washington, D.C.: National Academy Press, 1987).

The Council also recommended that BLS carry out studies to assess how well employers understand the recordkeeping guidelines and how uniformly they record entries on logs. As its response to that recommendation, BLS cited its participation in the Keystone Center project on occupational injury and illness recordkeeping. This task force, which includes representatives from business, labor, and OSHA, has been addressing recordkeeping problems for more than a year and is expected to identify problem areas and propose options for improvements in recordkeeping guidelines early in 1989. BLS will consider these proposals in drafting revised guidelines it expects to issue in January 1991. Although BLS has no formal research plan, it has acknowledged the value of testing employer understanding of the new guidelines and expressed the intention to do so. To develop a testing strategy, the office responsible for developing the guidelines has requested assistance from BLS's Cognitive Research Laboratory.[10]

To assess the accuracy of employers' responses to BLS's annual survey, the Council recommended that BLS compare a sample of employers' injury and illness logs with the survey responses the employers submitted. BLS responded to this recommendation by beginning feasibility tests of different approaches for collecting survey respondents' OSHA logs and certain additional data. To further refine the approaches, the completed feasibility tests have been followed by four planned pilot projects in ten states.

Conclusions

BLS has taken some steps to (1) test the consistency between employers' logs and their survey reports and (2) assess the accuracy of employers' records on occupational fatalities. We believe, however, that BLS should do more to assess the accuracy of injury reporting on employer logs; it should not just look at the similarity between aggregate estimates of injuries and the estimates generated from other data bases. We also believe BLS should develop and implement a clear research strategy for assessing employers' understanding of the revised recordkeeping guidelines before they are issued.

We believe that BLS should be responsible for (1) assessing the accuracy of occupational injury and illness data from employers and (2) identifying both the causes of inaccurate recordkeeping and potential solutions. BLS has acknowledged that interviewing employers and examining

[10]This group uses cognitive research methods to improve the design of questionnaires and instructional materials before field testing.

employers' records would be consistent with its mission as long as employer participation is voluntary. Therefore, we believe BLS should undertake studies, as recommended by the National Research Council, assessing the accuracy of individual employers' injury and illness records. Given the importance of understandable and unambiguous recordkeeping guidance to improve accuracy and the lack of understanding shown by employers in the past, we also believe BLS should have some mechanism for testing the revised guidelines with representative employers before publicizing them.

Recommendations to the Secretary of Labor

We recommend that the Secretary of Labor require BLS to

- conduct studies that assess the accuracy of employer injury records by comparing those records with independent data sources and
- systematically evaluate how well employers understand the revised guidelines for recording (and reporting) work-related injuries and illnesses to BLS.

Procedures That Could Help OSHA Detect Recordkeeping Inaccuracies

As discussed previously, the purpose of the BLS-OSHA Recordkeeping Audit Program was, in part, to develop procedures for detecting inaccuracies in employers' injury and illness records. The procedures developed in that program proved to be both feasible to implement and more effective than the usual compliance officer activities. They indicated that underrecording and inaccurate recordkeeping in general may be widespread problems.

As we informed you in June 1988, however, neither BLS nor OSHA was considering ways to use these recordkeeping procedures further. According to BLS, it has no plans to use these procedures to detect inaccuracies because to do so would constitute an enforcement activity (if employers were required to give them access to the records), and enforcement is not a part of the Bureau's mission and policies. OSHA officials considered and rejected the idea of using the procedures to generate statistically valid national estimates of recordkeeping accuracy, claiming it would serve little purpose and require excessive resources. The officials reported, however, that they had given no consideration to whether these procedures for identifying inaccuracies in records would be useful in detecting lack of compliance with recordkeeping policy and procedures in their ongoing enforcement activities. As we discuss later, OSHA now plans to adopt several of these procedures in its enforcement

activities in the manufacturing industry, but it has not yet revised its Field Operations Manual to implement these changes.

Both the Congress and the National Research Council have expressed concern about the need to improve procedures for detecting data inaccuracies. According to the June 1988 Senate Appropriations Committee report, the potentially useful procedures (identified in the Recordkeeping Audit Program) for finding recordkeeping violations should not be "abandoned prematurely." The Committee also directed Labor to respond, by December 1, 1988, with a report that (1) identifies options for use of these procedures, with accompanying cost estimates, and (2) indicates which, if any, options will be implemented and when. The National Research Council recommended that the procedures of the Recordkeeping Audit Program should be expanded to include a broader sample of firms if agency tests proved them feasible.

Conclusions

OSHA should do more to assure the accuracy of employer records. The procedures developed in the Recordkeeping Audit Program are potentially useful in enforcing accurate recordkeeping procedures. For example, these procedures might be used in certain industries where underreporting is thought to be prevalent. In reporting on its Chemical Special Emphasis Program, OSHA made this observation: Even employers that were not inspected responded to the program by making inquiries, reassessing policies, and changing injury records to conform to OSHA policy and procedures. If OSHA used the procedures (developed in the program) in selected industries, in certain geographic areas, or on a percentage of its targeted inspections, the procedures might have a positive impact, similar to that for the program. This would demonstrate the importance of recordkeeping accuracy.

Recommendation to the Secretary of Labor

We recommend that the Secretary of Labor direct OSHA to use the procedures developed in the Recordkeeping Audit Program in selected enforcement activities.

Agency Comments

The Department of Labor comments were provided orally by officials representing BLS and OSHA. In addition, OSHA submitted a written response (see app. II). Specific technical clarifications have been incorporated in the report as appropriate; BLS and OSHA comments on our recommendations are summarized below.

BLS Comments

BLS concurred with both our recommendations for BLS actions. The Bureau noted one qualification, however, regarding our recommendation that it assess the accuracy of employers' injury records. BLS agrees it needs to make these assessments of employers' records, but noted that its ability to assess recordkeeping accuracy is nonetheless limited. According to BLS, if the other records with which employers' logs are compared are inaccurate, the comparison may assess consistency between the logs and the other records rather than the accuracy of the logs. BLS believes that the most conclusive tests of accuracy may require comparing employers' logs with data such as employer medical records, to which BLS lacks access.

We recognize the difficulty of assessing the accuracy of employers' records. Nevertheless, we believe that comparing employers' injury records with independent data sources can be useful in identifying problems and solutions that would improve data accuracy. Thus, we believe BLS should assess the accuracy of employers' records, to the extent that it can: BLS should compare these records with data that (1) it has access to and (2) employers and employees voluntarily provide.

OSHA Comments

After reviewing our draft report, OSHA now concurs with our recommendation that it use the procedures developed in the Recordkeeping Audit Program in selected enforcement activities. OSHA informed us that it plans to adopt several of the procedures developed in that program for use in its routine record reviews during inspections in the manufacturing industry. Those procedures would include interviewing the designated recordkeeper and employees in order to (1) determine worker awareness of injury and illness records and (2) obtain supplemental and unreported information about illnesses and injuries. For compliance purposes, however, OSHA does not plan to use the most time-consuming of those procedures (reconstructing the employer's log) because to do so would mean shifting resources from other activities, such as safety inspections. OSHA believes that use of the other procedures (interviews with employees and recordkeeping officials) in combination with its increased emphasis on recordkeeping violations makes reconstructing the employer's log unnecessary and inefficient.

These positive changes should substantially improve OSHA's ability to detect recordkeeping inaccuracies. The procedures used in the Recordkeeping Audit Program have several advantages over the current records verification procedures defined in OSHA's Field Operations Manual.

Under current procedures, compliance officers are directed to interview the employer representative responsible for maintaining injury and illness records to "determine what the company's recording policy is [procedures are]"; injury and illness records are supposed to be "reviewed and verified with employee representatives or other informed employees." No further guidance is given on the (1) topics to be covered in the interviews or (2) procedures for selecting employees to interview. Nor is any documentation required to show that these procedures are followed. At the area offices we visited, we found no way to confirm whether or not these procedures had been followed.

In contrast, by using structured interview guides, the Recordkeeping Audit Program procedures assured completeness and consistency in the interviews with employees and designated recordkeepers. The Recordkeeping Audit Program procedures also (1) specified the number of employees to be interviewed, taking into consideration the total number of employees, and (2) provided documentation that these procedures had been followed.

OSHA compliance officers' adoption of the more systematic and consistent interview procedures used in the Recordkeeping Audit Program, as OSHA has proposed, should substantially improve officers' ability to detect recordkeeping inaccuracies. In addition, documenting use of these procedures will provide important quality assurance measures through which supervisors can confirm that thorough records reviews have been made. OSHA's statement of its plans, however, does not address two other aspects of its current records-review procedures: comparison of employers' logs with (1) workers' compensation injury reports (or comparable OSHA forms) and (2) on-site medical treatment or first-aid records. Current procedures call for comparison of employers' logs with medical or first-aid records only in cases where there is evidence of widespread recordkeeping violations. Compliance officers are directed, however, to compare the log (1) with all workers' compensation reports "if time allows" or (2) if all reports cannot be examined, with a representative sample. But no documentation is required of the comparisons made. Documenting these comparisons as well as the interviews with employees, including recordkeepers, would substantially improve OSHA's procedures for verifying the accuracy of injury data. With these improvements, we would agree with OSHA that reconstruction of the entire log is unnecessary for routine compliance purposes.

OSHA said that it intends to periodically repeat the Recordkeeping Audit Program in its entirety, including reconstruction of the log, for purposes

other than enforcement. This would be done, for example, to assess changes in employer recordkeeping practices over time and to evaluate the effectiveness of OSHA and BLS efforts to improve recordkeeping.

As we have said in earlier reports and testimony, carefully designed evaluations are essential to improving program implementation and assessing the impact of program changes. The Recordkeeping Audit Program procedures should be useful in conducting such evaluations.

Comments From the Occupational Safety and Health Administration

U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

DEC 15

Mr. Lawrence H. Thompson
Assistant Comptroller General
Human Resources Division
U.S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Thompson:

This is in response to your letter of November 22, addressed to Secretary of Labor Ann McLaughlin, requesting comments on the draft General Accounting Office (GAO) report entitled "Assuring Accuracy in Employer Injury and Illness Records."

The Occupational Safety and Health Administration (OSHA) has been concerned for some time about the quality and accuracy of employers' injury and illness records. Since 1984, when the Congress evinced interest in the problem and directed that funds be obligated for a study by the Department of Labor, OSHA has taken a number of steps to improve employers' recordkeeping practices. From January 1986 to March 1988, OSHA made several modifications to its 1981 records-check procedures that were designed to assure that the determination of whether to conduct a comprehensive safety inspection at a manufacturing worksite was not based solely on an employer's injury and illness records. In 1986, as GAO notes in its draft report, OSHA markedly increased its citations and penalties for violations of agency recordkeeping requirements. In subsequent years, OSHA undertook several major recordkeeping enforcement actions which resulted in corporate-wide settlement agreements with farreaching ramifications for improved recordkeeping. Following the increased emphasis on records in 1986, OSHA has made records review an integral part of its approximately 60,000 annual onsite inspections. We share GAO's expectation that the changes in our records-check policy and increased recordkeeping enforcement effort "should improve the effectiveness of OSHA's inspection process."

In the past year, we have reviewed the results and implications of the study we undertook in 1987 with the Bureau of Labor Statistics of occupational injury and illness recordkeeping practices of typical employers in 193 establishments in two States, Massachusetts and Missouri. We have come to the conclusion that the procedures used in the two-state study do not constitute the most cost-effective approach to assuring continued improvements in injury and illness recordkeeping practices. OSHA has estimated that 50 records evaluations would require the expenditure of 2,000 person-hours, or the equivalent of about 200 safety inspections. We do not believe that OSHA can

justify a reduction in the number of inspections that would result from our use of the full complement of recordkeeping audit procedures on an ongoing basis. In our view, it would be more efficient to continue with OSHA's new emphasis on recordkeeping in all inspections as the cornerstone of its program. We also plan to adopt several of the procedures of the two-state study in our routine record reviews during inspections in the manufacturing sector. These procedures would include interviewing the designated recordkeeper regarding the manner in which injuries are recorded; questioning the recordkeeper about the definitions, concepts and interpretations associated with recordkeeping; and interviewing employees to determine worker awareness of injury/illness records and to obtain supplemental and unreported information about illnesses and injuries.

For OSHA compliance purposes, we believe it is unnecessary to routinely use the most time-consuming activity of the two-state study -- the reconstruction of the log of occupational illnesses and injuries. This activity involves a comparison of the log with other employer-held records, such as employee medical records. The log-reconstruction procedures were designed as an analytical tool to quantify the overall accuracy of employers' records; they are not needed to document violations of OSHA's recordkeeping requirements.

OSHA is developing plans to incorporate all recordkeeping audit procedures used in the two-state study, including reconstruction of the log, in a repetition of that study every five years or so. This will allow the agency to assess changes in employer recordkeeping practices over time, using the 1987 recordkeeping audit study as a baseline. Periodic repetition of the study will also help the agency evaluate the effectiveness of its recordkeeping programs and those of the Bureau of Labor Statistics in improving overall employer recordkeeping practices.

Thank you for providing us the opportunity to review the draft report.

Sincerely,

John A. Pendergrass
Assistant Secretary

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Related GAO Products

"Sweatshops" in the U.S.: Opinions on their Extent and Possible Enforcement Options (GAO/HRD-88-130BR, Aug. 30, 1988).

OSHA's Resumption of Private Sector Enforcement Activities in California (GAO/T-HRD-88-19, June 20, 1988).

OSHA's Monitoring and Evaluation of State Programs (GAO/T-HRD-88-13, Apr. 20, 1988).

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